IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

SERIAL NO.:	10/772,479	CONFIRMATION NO.:	4983
APPLICANT:	Driscoll et al.		
FILED:	February 5, 2004		
GROUP ART UNIT:	3617		
EXAMINER:	Vasudeva, Ajay		
ATTORNEY DOCKET NO.:	6818-64		
CUSTOMER NO.:	30448		

FOR: **Deployable and Autonomous Mooring System**

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Certificate of Transmission
I hereby certify that this correspondence is mailed via first class mail to the Patent and Trademark Office, Mail Stop Amendment, Alexandria, VA on January 26, 2006.

Michael K. Dixon Reg. No. 46,665

DATE: January 26, 2006

DECLARATION OF INVENTOR FREDRICK R. DRISCOLL UNDER 37 CFR § 1.131

Sir:

1.

My name is Fredrick R. Driscoll. I am over the age of 21, and I am competent to make this Declaration based upon my personal knowledge. I understand that this Declaration will be used in the United States Patent and Trademark Office ("Patent Office") in connection with the above-identified patent application. I understand that this Declaration is

being submitted by the owner of the above-identified patent application in order to show that the invention claimed in certain claims of that patent application was conceived in the United States before the publication date of the IEEE 2002 Publication entitled "A Combination Air Deceleration and Mooring Module for A-Sized Buoys." The IEEE 2002 Publication was first published on October 19, 2002. In understand that the Patent Office contends that this IEEE 2002 Publication is relevant to Claims 1-5 and 7-11 of the above-identified patent application.

2.

In order to prepare this Declaration, I have reviewed: my work files relating to development of the Deployable and Autonomous Mooring System, the above-identified IEEE 2002 Publication, claims 1-5 and 7-11 of the above-identified patent application, §715.07 of the Manual of Patent Examining Procedure that describes the issues of conception, diligence, and reduction to practice, and 37 C.F.R. §1.131.

3.

I am a co-inventor of claims 1-5 and 7-11 of the above-identified patent application and a co-inventor of the subject matter described in the above-identified patent application (the "Invention"). Based on at least the facts in paragraph 5, I believe that I conceived the Invention before October 19, 2002. I worked on the subject matter of the above-identified patent application in the United States.

4.

Based on at least the facts included in paragraph 5, I believe that beginning prior to October 19, 2002 and continuing until February 5, 2003 (the filing date of the provisional application from which this application claims priority), I worked diligently to file the patent application directed to the invention.

5.

Based on at least the following facts, I believe that the attached Exhibits show that I had conceived the Invention before October 19, 2002, and, from the date to February 5, 2003, the Exhibits show that I diligently worked on filing the patent application directed to the subject matter of claims 1-5 and 7-11.

(A) Exhibit 1 is composed of photocopies of a disclosure document describing the Invention, entitled "Invention Disclosure." The Invention Disclosure described generally the deployable and autonomous mooring system. The patent disclosure was processed in the Office of Technology Transfer, which is an assignee of the invention and my employer, on May 28, 2002. The date of this document has been redacted from the pages, but is before October 19, 2002.

(B) I participated in a meeting with a patent attorney in January, 2003 during which I described the Invention to facilitate preparation of the invention.

As the person signing below, I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under § 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, or any patent issued thereon.

Jan 26/2006
Dated:

Name: Fredrick R. Driscoll
Citizenship: United States of America
Post Office Address: 1703 NW 108 Terrace
Pembroke Pines, FL 33026

CONFIDENTIAL

Appendix VII

INVENTION DISCLOSURE FORM

3.a.

I. Purpose and Format of Invention Disclosure Form:

In order to protect and commercialize your invention and determine whether to pur: for your invention, Florida Atlantic University needs the information requested by tl are important, so please respond to each of them even if the answer is "none" or "no space is needed, feel free to insert into this form or use additional sheets. Your discl confidentially. For any questions regarding this form, please call the Office of Technology Transfer: 297-0202.

II. Disclosure of Invention

A. TITLE: A-Size Self Mooring Module

B. In lay terms, briefly describe your invention, including its potential commercial use. This description will be used as a non-technical marketing abstract. Do not include any enabling information. (insert or add sheets)

C. DESCRIPTION AND OPERATION: Provide a complete yet concise description including sketches, diagrams, photographs and any other data which would be sufficient to enable another person skilled in the field to reproduce the invention. Include any data that show that the invention works. (insert or add sheets)

III. Prior Art

A. Have you conducted a patent search?

YES _____ NO X

If YES, please give results and list names and issue numbers of each patent you reviewed: _____

B. Have you ever seen or read about an invention similar to yours:

YES _____ NO X

If YES, then provide: 1) Name and date of publication or presentation
2) Explain how your invention is different or better.

C. Please identify any other technologies that might commercially compete with your invention: _____

(Use additional insertions or pages as needed.)

D. Do you wish to license this invention for your own company? YES ___ NO X

E. Do you wish to continue research on this invention if the entity licensing the invention provides funding? YES X NO ___

VII. Administrative Considerations

A. SUPPORT: NOTE: percentages indicated below should add up to 100%

1. University Support:

a. Name and address of the University facility where the invention was developed:

Name FAU SeaTech Campus
Address 101 North Beach Road
City, State, Zip Dania Beach, Florida 33004

b. What was the university percentage of support, in the way of money, facilities, and personnel (include yourself as part of the personnel), to the invention process? 0 % %

2. Other Support:

a. Name and address of any other organization contributing to the development of the invention:

Name: Office Of Naval Research (ONR)
Grant/Contracts N00014-01-1-0014 (1615-006-42)
Address 800 North Quincy Street
City, State, Zip Arlington, Virginia 22217-5660
P.I. Name Fredrick Driscoll
Grant Title Air Deployable Self-Mooring A-Sized Sensor System

b. What was the percentage of this organization's contribution? 100 % Note: percentages indicated should add up to 100%.

VIII. Inventor(s): Use additional sheets if there are more than two inventors.

(1) Name Four (4) Inventors - See Attachment
Official Title/Position ___
Business Address ___
City, State, Zip ___
Telephone Number ___ email address: ___
% of contribution ___

(2) Name ___
Official Title/Position ___
Business Address ___
City, State, Zip ___
Telephone Number ___ email address: ___
% of contribution ___

Signature of Inventor(s) submitting disclosure:
Signature ___ Date ___
If only one inventor, the disclosure should be signed and dated by one technically Qualified witness who has read and understood the disclosure.
Witness ___ Date ___
Each inventor should confirm the proportion of University contribution, outside contribution, and individual contribution to the invention.

IX. Authorized Signature(s):

	Name	Signature	Date
Dept./Div. Chair	S. L. Cuda		
College Dean	K. Stevens		
OTT Reviewer	Jane McGuire	J McGuire	

X. University Decision: (to be filled in by Office of Technology Transfer)

On Behalf of Florida Atlantic University, the Office of Technology Transfer has
___ elected to acquire title to the Invention by assignment
___ decided the disclosure is premature or incomplete (see comments below)
___ elected to waive the University=s rights to the invention

XI. Comments:

Signed by ___ ___
Vice President for Research or designee Date

Send original and one copy of the Invention Disclosure Form to the Office of Technology Transfer

File # 2002-14

Attachment To Appendix VII
Invention Disclosure Form
"A-Size Self Mooring Module"

Paragraph VIII. Inventors:

(1)
Name: Fredrick R. Driscoll
Official Title/Position: Assistant Professor
Business Address: 101 North Beach Road
City, State, Zip Dania Beach, Florida 33004
Telephone Number: 954-924-7221
email address: rdriscoll@oe.fau.edu
% Of Contribution: 62.0 %
Signature:

(2)
Name: William A. Venezia
Official Title/Position: Senior Technical Representative, NSCWCD
Business Address: 91 North Beach Road
City, State, Zip Dania Beach, Florida 33004
Telephone Number: 954-926-4001
email address: veneziawa@nswccd.navy.mil
% Of Contribution: 22.0 %
Signature:

(3)
Name: Tom Pantelakis
Official Title/Position: Coordinator, Research Programs
Business Address: 101 North Beach Road
City, State, Zip Dania Beach, Florida 33004
Telephone Number: 954-924-7112
email address: tpantela@oe.fau.edu
% Of Contribution: 8.0 %
Signature:

(4)
Name: Christophe Castanier
Official Title/Position: Visiting Scholar
Business Address: 101 North Beach Road
City, State, Zip Dania Beach, Florida 33004
Telephone Number: 954-924-7221
email address: christophe.castanier@free.fr
% Of Contribution: 8.0 %
Signature:

Attachment To Appendix VII
Invention Disclosure Form
"A-Size Self Mooring Module"

Paragraph VIII. Inventors:

(1)
Name: Fredrick R. Driscoll
Official Title/Position: Assistant Professor
Business Address: 101 North Beach Road
City, State, Zip Dania Beach, Florida 33004
Telephone Number: 954-924-7221
email address: rdriscoll@oe.fau.edu
% Of Contribution: 62.0 %
Signature:

(2)
Name: William A. Venezia
Official Title/Position: Senior Technical Representative, NSCWCD
Business Address: 91 North Beach Road
City, State, Zip Dania Beach, Florida 33004
Telephone Number: 954-926-4001
email address: veneziawa@nswccd.navy.mil
% Of Contribution: 22.0 %
Signature:

(3)
Name: Tom Pantelakis
Official Title/Position: Coordinator, Research Programs
Business Address: 101 North Beach Road
City, State, Zip Dania Beach, Florida 33004
Telephone Number: 954-924-7112
email address: tpantela@oe.fau.edu
% Of Contribution: 8.0 %
Signature:

(4)
Name: Christophe Castanier
Official Title/Position: Visiting Scholar
Business Address: 101 North Beach Road
City, State, Zip Dania Beach, Florida 33004
Telephone Number: 954-924-7221
email address: christophe.castanier@free.fr
% Of Contribution: 8.0 %
Signature:

Combination Air Deceleration and Mooring Module for "A-sized" Systems

Description

A combination air brake and mooring module is packaged to conform to the "A-sized" standard and is capable of air deployment and autonomous mooring. The anchor and parachute are combined and rigidly attached to the "A-sized" load. A buoyant mooring line module, capable of self-adjusting the mooring scope is attached to the anchor by a short cable. The electronic components are low power and packaged in a leak proof housing.

Advantages

- Rigidly attached air-brake eliminates parachute entanglement
- Combined air-brake and anchor reduces packaging space, thereby, increasing load capabilities
- Autonomous adjusting mooring scope allows the system to be used with different mooring lines and deployed in waters of unknown depths
- Anchors in bottoms ranging from mud and gravel to broken rock

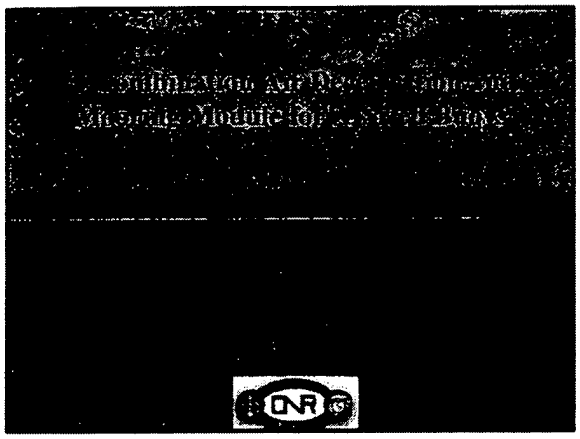
A Combination Air Deceleration and Mooring Module for A-Sized Buoys

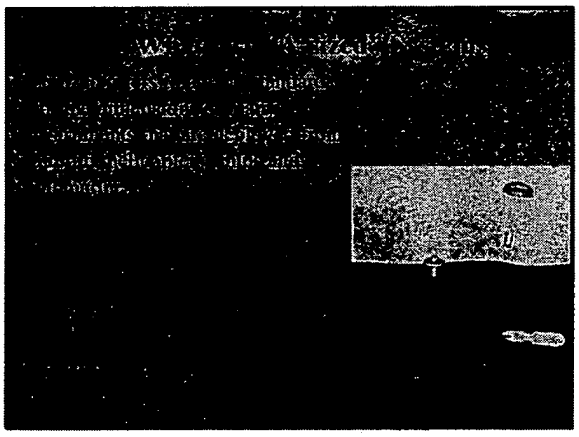
Frederick R. Driscoll*, William Venezia[x], Tom Pantelakis* and Christophe Castanier*

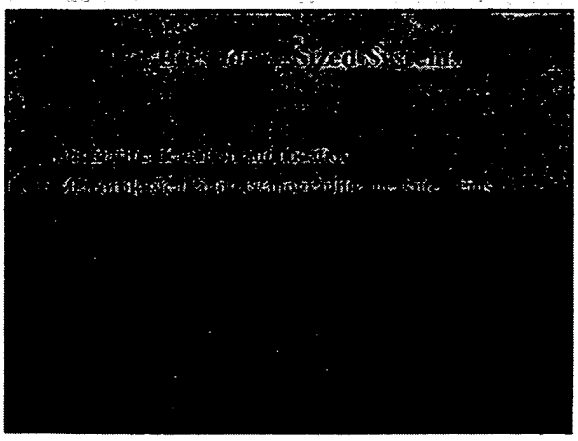
*Florida Atlantic University
Department of Ocean Engineering
101 North Beach Road
Dania Beach, FL, 33004

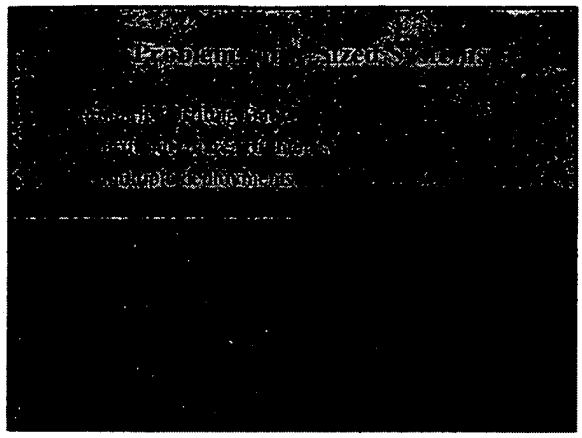
[x]Naval Surface Warfare Center
Carderock Division, South Florida Test Facility
101 North Beach Road,
Dania Beach, FL, 33004

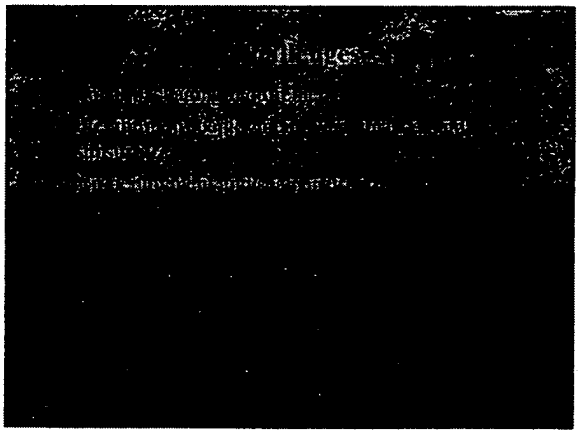
The A-sized standard is adopted for many buoys used in ocean monitoring that are deployed from aircraft, helicopters, ships and submarines using pressure and gravity launch tubes, as well as charge-activated devices (CAD). Unfortunately, most existing A-sized systems are drifting buoys and acquiring relatively long term measurements from a fixed location in littoral waters is difficult because currents tend to move these drifting buoys on shore or out of the region of active interest. A novel air brake and mooring module is presented in this paper that provides a reliable air deployment and autonomous mooring capability for A-sized systems. The module consists of a combined air brake/anchor and an autonomous scope adjusting mooring line spool. In air, the combined air brake/anchor is rigidly attached to the sensor package to eliminate parachute entanglement. In water, the air brake/anchor is released and moors the system is bottom types ranging from mud and sand to broken rock. The mooring module supports different mooring lines, including embedded conductors, and self-locks the mooring line at preprogrammed scopes in depths ranging between 20 and 200 m. The electronic components are low power and potted to eliminate leaks. The complete package is small, consuming 1/3 of the available space, and its volume is equivalent to the combined space utilized by existing parachutes and sensor suspension and communication lines.

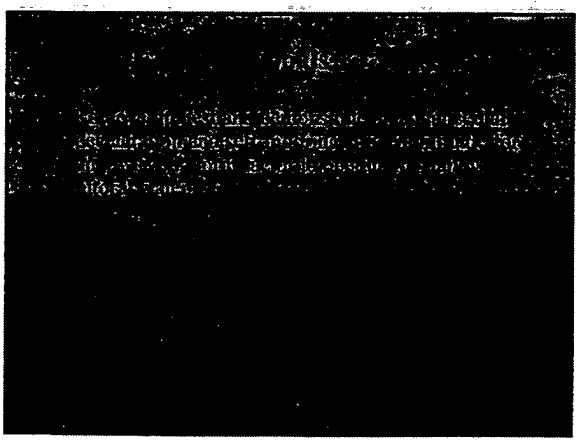


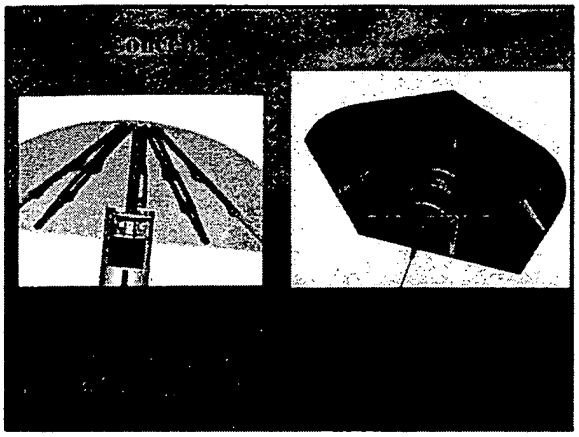


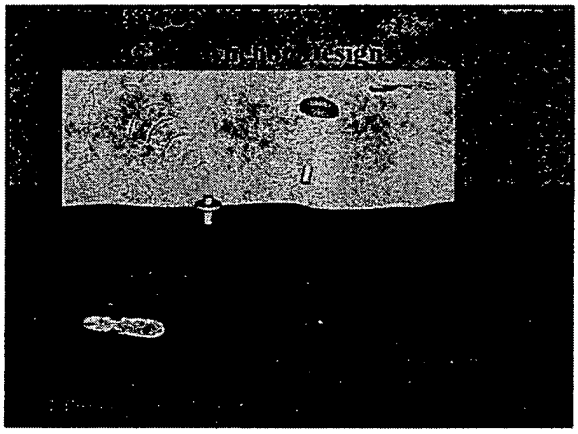


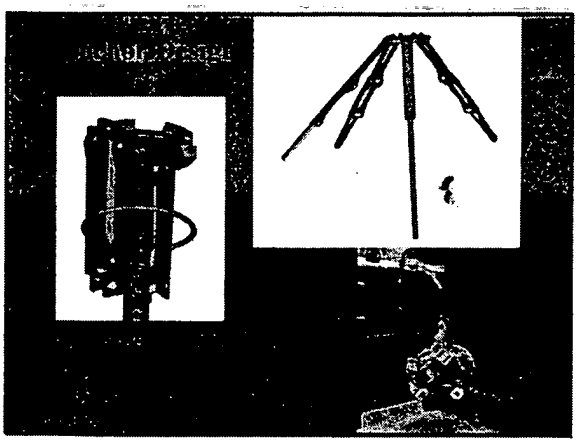


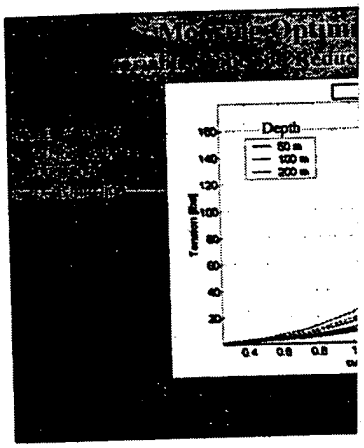








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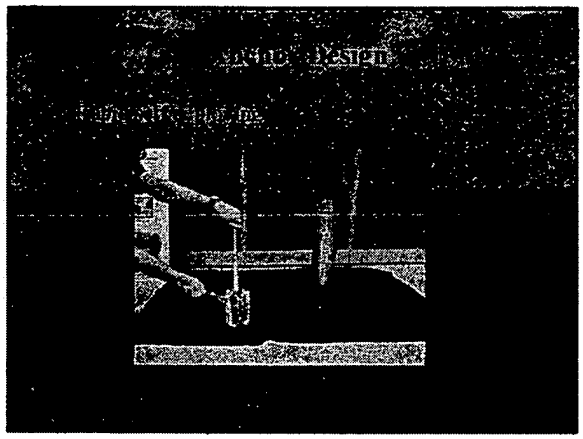
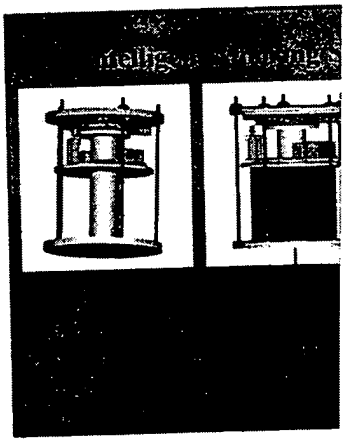
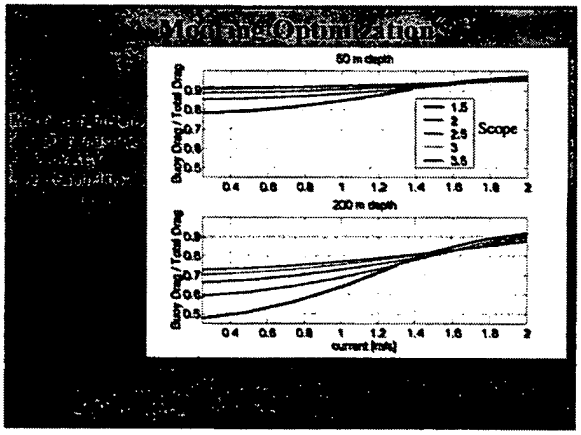
100 m
200 m
Tension [lbs]



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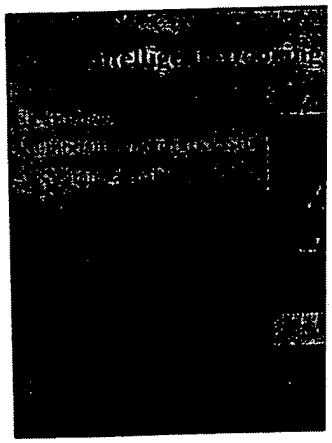
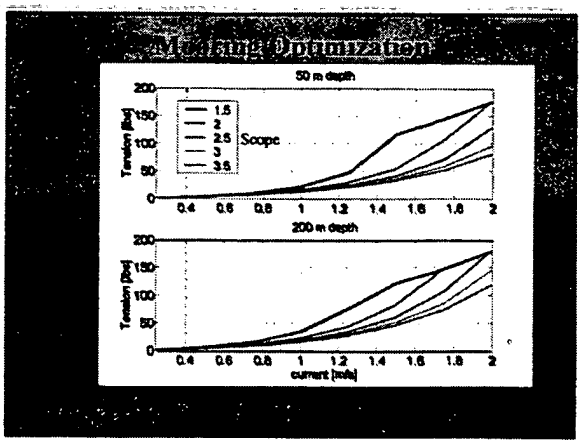
Buoy Drag / Total Drag
Scope
1.5
2
2.5
3
3.5
200 m depth
current [m/s]

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Tension [lbs]
Scope
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2
2.5
3
3.5
200 m depth
current [m/s]